

Vermont Yankee Power Uprate

U.S. Nuclear Regulatory Commission
Review and Inspection Processes for
Power Upgrades

Presentation for
Vermont Public Service Board Meeting
June 28, 2004

Opening Remarks

- Why we are here
 - To provide the Vermont PSB an overview of NRC's review and inspection efforts related to Entergy's application for a 20% extended power uprate at Vermont Yankee
- What we hope to accomplish
 - Demonstrate that NRC's review process is comprehensive, thorough, and assures safety
 - Answer questions you may have

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Agenda

- Opening remarks – Bill Ruland
- Power uprate review – Bill Ruland
- New engineering inspection – Stu Richards
- Inspections at Vermont Yankee – Brian Holian
- Questions and answers
- Concluding remarks – Bill Ruland

3

NRC Mission

- What does the NRC do?
 - NRC's mission is to protect the public health and safety, and the environment from the effects of radiation from nuclear reactors, materials, and waste facilities. We also regulate these nuclear materials and facilities to promote the common defense and security.

4

NRC Review of Vermont Yankee Power Uprate

- Application and three supplements submitted in September and October 2003
- NRC meeting held in October 2003
- NRC informed Entergy in December 2003 that more information was required
- Entergy provided additional information
- NRC accepted the application for review in February 2004

5

NRC Review of Vermont Yankee Power Uprate

- NRC is currently proceeding with detailed review
 - Seventeen technical areas with an estimated 4000 hours of review
- NRC will perform necessary audits and calculations
- NRC has requested additional information from Entergy and expects a response by June 30, 2004

6

Public Process

- NRC's *Federal Register* notice will provide an opportunity for the public to comment and/or request a hearing
- NRC will issue a draft environmental assessment for public comment
- NRC will address public comments and issue final environmental assessment
- NRC will address public comments and hold another public meeting on the uprate application
- Vermont Yankee web page:
 - <http://www.nrc.gov/reactors/plant-specific-items/vermont-yankee-issues.html>

7

NRC Review of Vermont Yankee Power Uprate

- Advisory Committee on Reactor Safeguards (ACRS) will review and consider Entergy's application and the NRC's staff's safety evaluation
- NRC staff will brief ACRS on the staff's review of the power uprate and the staff's conclusions
- NRC senior management will review the staff's recommendation on the power uprate

8

Comments/Concerns Received

- Technical and safety matters
- Review and inspection processes
- Operating experience
- Vermont Yankee licensing basis
- Additional inspections

9

New Engineering Inspection

Stu Richards

NRC manager responsible for the inspection program

10

New Engineering Inspection

- NRC initiated a trial inspection program which seeks to enhance NRC inspection in the design and engineering areas
- The Vermont Yankee inspection in August will be the first of the four pilot inspections conducted nationwide

11

New Engineering Inspection Inspection Objective

- Perform an in-depth, focused, engineering inspection
- Verify that design bases have been correctly implemented for selected risk-significant components and operator actions
- Ensure that components and operator actions meet the safety functional requirements

12

New Engineering Inspection

- The inspection will be conducted by a team of six or seven inspectors, including two or three contractors with expertise in power plant design
- The inspection uses design information, equipment performance data, and risk assessment to focus the inspection on components and operator actions of relatively high safety significance

13

New Engineering Inspection

- Relevant industry operating experience will be assessed in the inspection sampling
- Will include components that could be event initiators and those used to mitigate events
- Some components affected by the power uprate will be part of the inspection
- Disposition of inspection findings

14

Inspections at Vermont Yankee

Brian Holian

NRC manager responsible for inspection oversight
at Vermont Yankee

15

Past Engineering Inspections

- Engineering products, system performance and corrective action effectiveness are regularly evaluated by on-site resident inspectors and regional specialists
 - Quarterly inspection reports
- Since 1997, six engineering team inspections were performed at Vermont Yankee
 - Four to eight inspectors (either NRC or contractor)
 - Separate inspection reports

16

Vermont Yankee Engineering Assessment Inspection

- Three weeks of on-site inspection with additional work performed away from site
 - Weeks of August 9, 16, and 30
- Planned inspection team
 - Team leader
 - Three contractors
 - Three experienced NRC inspectors
 - One inspector in training
 - One observer from the State of Vermont
- Exit meeting open for public observation
 - September
- Inspection report
 - October

17

Vermont Yankee Engineering Inspection Inspector Independence

- Contractors – Never employed by Entergy or Vermont Yankee and no recent contract work
- NRC inspectors and team leader
 - Will not be current or former resident inspectors at Vermont Yankee
 - No recent engineering inspections at Vermont Yankee

18

Other Inspections at Vermont Yankee

- Inspections focused on power uprate
 - Operational aspects
 - Maintenance
 - Testing
 - Modifications
- Routine inspection activities
 - Resident inspectors
 - Specialist inspectors from the regional office

19

Conclusions

- NRC's power uprate review is thorough, comprehensive, and focused on safety
- Entergy must provide sufficient justification to show that safety is maintained: they are not there yet
- NRC's review is ongoing
- NRC values your comments and will give them serious consideration
- New engineering inspection will be thorough, independent, and cross several systems
- NRC will only approve a power uprate after we are satisfied that it is safe

20